

Work Order ID 144204

April 07, 2016 12:00:12 PM

144204

Page 1

Item ID: D412-666-011

Accept

N900040100

Setup Start

NS1

Revision ID:

Stop

NS2

Item Name: Gross Weight Towing Adapter

Start Date: 4/12/2016 Start Qty: 3.00

3

Cust Item ID:

Required Date: 4/19/2016 Req'd Qty: 3.00

3

Customer:

Reference:

Approvals:

Process Plan: SUA

Date: 12040000

Tooling:

Date:

Run Start

NR1

QC:

Date:

SPC (Y/N):

Date:

Stop

NR2

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
Draw Nbr	Revision Nbr								
IIN D412-666	Rev C1								
100	Document Control	0.00							
100	DOCUMENT CONTROL								
DC	Memo	0.00							
Doc.Control -USB or Paperwork	Photocopy bluefile & type labels per PPP412-666-011		CHG 004						
						3	DAS 28 9-89	APR 12 2016	
110	Pick Kit	0.00							
110									
Packaging	Memo	0.00							
Packaging									
						3	DAS 27 9-89	APR 11 2016	
120	QC4- 100% Inspect kits for completeness	0.00							
120									
QC	Memo	0.00							
Quality Control						3	DAS 28 9-89	APR 12 2016	

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval		
Description Work Order Deviation				Disposition				Completed By	
								Lead hand / Supervisor Approval Verification	
Root Cause		FAULT CATEGORY							
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐				
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐				
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐				
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐				
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐				
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐				
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐				
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐				
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐				
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐				
Past Expiry Date ☐	Manufacturing Process ☐	OTHER : _____							
Misidentified ☐	Past Due ☐								

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April 07, 2016 12:00:12 PM

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Page 2

Item ID: D412-666-011

Accept

N900040100

Setup Start ***NS1***

Revision ID:

Item Name: Gross Weight Towing Adapter

Stop ***NS2***

Start Date: 4/12/2016 Start Qty: 3.00

3

Cust Item ID:

Required Date: 4/19/2016 Req'd Qty: 3.00

3

Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start ***NR1***

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
130	Packaging	0.00							
130									
Packaging	Memo	0.00							
Packaging	Identify and pack for shipping as per PPP D412-666-011								
	Location :FG023 X2								
	X1 sola								
140	QC21- Final Inspection - Work Order Release	0.00							
140									
QC	Memo	0.01							
Quality Control									

3X **27** **9-89** **APR 12 2016**

APR 14 2016

MLJ
dm 16/04/14

MLJ APR 14 2016

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval 		
Description Work Order Deviation				Disposition					
							Completed By		
							Lead hand / Supervisor Approval Verification		
							QC / QA Coordinator Approval		
Root Cause		FAULT CATEGORY							
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐				
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐				
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐				
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐				
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐				
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐				
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐				
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐				
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐				
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐				
Past Expiry Date ☐	Manufacturing Process ☐	OTHER : _____							
Misidentified ☐	Past Due ☐								

Picklist Print

April 07, 2016 12:00:16 PM

Page 1

Work Order ID: 144204

144204

Parent Item: D412-666-011

D412-666-011

Parent Item Name: Gross Weight Towing Adapter

Start Date: 4/12/2016

Required Date: 4/19/2016

Start Qty: 3.00

Required Qty: 3.00

Comments: IPP Rev:B Added GHG 002 NG 02-03-06
IPP Rev:C As per Rev C JLM 07-09-07 Verified By:EC

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
---------------------------------	------------------------	---------------	-------------	---------------------	------------------	-----------------	--------------------	----------------	-------------	--------------	---------------	----------------	--------

AN6-15A		Purchased		No		110	Each	26.0000	4	12			
AN6-15A									**				
Bolt													

DAS
28
9-89

Location	Loc Qty	Loc Code
ST334	26	
M128739	11	
M133515	15	

DAS
27
9-89

AN6-45A		Purchased		No		110	Each	56.0000	4	12			
AN6-45A									**				
Bolt													

DAS
28
9-89

Location	Loc Qty	Loc Code
over008	55	
M127832	40	
M132677	15	
ST333	1	
M131320	1	

DAS
27
9-89

D2888		Manufactured		No		110	Each	7.0000	2	6			
D2888									**				
Lug													

DAS
28
9-89

Location	Loc Qty	Loc Code
ST527	7	
120184	7	

DAS
27
9-89

APR 11 2016

Picklist Print

April 07, 2016 12:00:16 PM

Page 2

Work Order ID: 144204

144204

Parent Item: D412-666-011

D412-666-011

Parent Item Name: Gross Weight Towing Adapter

Start Date: 4/12/2016

Required Date: 4/19/2016

Start Qty: 3.00

Required Qty: 3.00

MS21042L6 Purchased No

110 Each 145.0000 4 12

MS21042L6

Nut

Location

Loc Qty

Loc Code

ST303

145

m133938

6

m134055

89

m134567

50

DAS
28
9-89

DAS
27
9-89

NAS1149D0663J Purchased No

110 Each 684.0000 8 24

NAS1149D0663J

Washer

Location

Loc Qty

Loc Code

ST260

227

M131618

227

ST263

406

M133134

89

M133769

12

M133812

6

M134360

299

ST269

51

M126334

51

DAS
28
9-89

DAS
27
9-89
APR 11 2016

1.0 APPLICABILITY:

GROSS WEIGHT TOWING KIT D412-666-011 MAY BE INSTALLED ON DART D205-634-XXX OR D204-635-XXX OR D412-742-XXX SKIDTUBES INSTALLED ON 412 AIRCRAFT TO ALLOW GROUND HANDLING AT GROSS WEIGHT IN ACCORDANCE WITH BELL SERVICE INSTRUCTION BHT-412-SI-58. IT IS ALSO ACCEPTABLE TO INSTALL THIS KIT ON 204/205/210/212 AIRCRAFT EQUIPPED WITH DART SKIDTUBES IN ORDER TO PRESERVE THE LIFE OF THE AFT CROSSTUBES. THIS KIT CONTAINS ENOUGH PARTS TO INSTALL D2888 LUGS ON BOTH SKIDTUBES.

2.0 PARTS LIST:

QTY -011	PART	DESCRIPTION
X	D412-666-011	GROSS WEIGHT TOWING KIT
2	D2888	LUG
4	AN6-15A	BOLT
4	AN6-45A	BOLT
8	AN960JD616	WASHER
4	MS21042L6	NUT (or MS21042-6)

DAE
28
9-8c

3.0 WEIGHT AND BALANCE:

INSTALLATION	WEIGHT	LONGITUDINAL	
		ARM	MOMENT
D412-666-011	1.90 lb 0.86 kg	163.0 in 4.14 m	310 in lb 3.56 m kg

4.0 PROCEDURE:

- 1) REMOVE AN6-12A BOLTS (4) ON INBOARD SIDE OF AFT SADDLE AND DISCARD. ON LANDING GEAR WITH DART AFT CROSSTUBES, REMOVE (4) AN6-40A BOLTS.
- 2) INSTALL D2888 LUGS WITH AN6-15A BOLTS (2) AS SHOWN IN FIGURE 1. USE AN6-45A (2) BOLTS ON DART CROSSTUBES, AS SHOWN IN FIGURE 2.
- 3) TORQUE BOLTS TO 95-110 in-lb (10.7-12.4 N-m).

5.0 NOTE:

IT IS ACCEPTABLE TO REPLACE THE AN6-15A/45A BOLTS WITH LONGER OR SHORTER AN6 BOLTS AS REQUIRED AND/OR INSTALL EXTRA AN960JD616 WASHERS UNDER NUT TO ENSURE 1.5 TO 4 THREADS IN SAFETY.

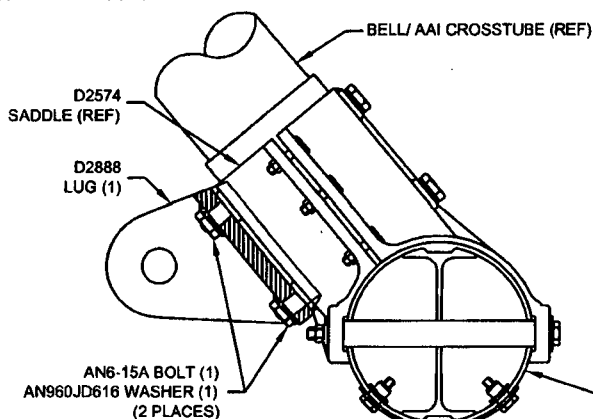


FIGURE 1
(BELL/AAI CROSSTUBES)

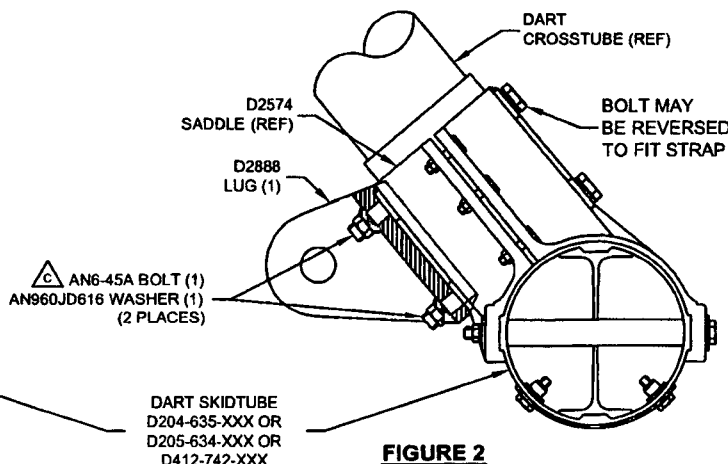


FIGURE 2
(DART CROSSTUBES)

C	- AN6-45A WAS AN6-43A, ADD NOTES - TO ENSURE COMPATIBILITY WITH D412-742-011/-013 - ESTIMATE (PARTS/PICK LIST) IS AFFECTED	MB	07.08.09
B	UPDATE KIT FOR BOTH SKIDTUBES AND COMPATIBILITY WITH DART CROSSTUBES	CP	02.03.04
A	NEW ISSUE	CP	99.05.03
REV.	DESCRIPTION	BY	DATE
DESIGN	4	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	PH		
CHECKED	PH	DRAWING NO.	REV. C
MFG. APPR.	N/A	D412-666	SHEET 1 OF 1
APPROVED	4	TITLE	SCALE
DE APPR.	4	412 GROSS WEIGHT TOWING KIT	1:4
DATE	07.08.10	COPYRIGHT © 1999 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	